

## **REMARKS**

Claims 1-9 are pending in the application. Claims 1-3 were rejected under 35 U.S.C. § 103(a) as being unpatentable over the admitted prior art in view of Hatano (U.S. Patent No. 5,995,169). Claims 4-9 were objected to because they depend upon the rejected claims 1-3. Applicant respectfully traverses the rejections and objections and requests the Examiner to withdraw the pending rejections and objections in light of the following remarks.

**A. 35 U.S.C. § 103(a)**

**1. Claims 1-2**

Claims 1-2 are patentable because the prior arts do not teach or suggest “a variable band-pass filter connected at a post-stage of the mixer and tuned to a frequency of the specific channel, wherein a tuning frequency of the variable band-pass filter can be shifted to a frequency out of a frequency band of the specific channel.”

Claims 1-2 were rejected as being obvious over the admitted prior art in view of Hatano. The Office Action asserts that it would have been obvious to one of the ordinary skill in the art to incorporate a variable band-pass filter 70 disclosed in Hatano into the admitted prior art's system. Applicant respectfully disagrees.

Claim 1 recites a television signal transmitter having a local oscillator, a mixer and a variable band-pass filter. The mixer mixes a supplied television intermediate frequency signal with a local oscillation signal from the local oscillator. The variable band-pass filter is connected at a post stage of the mixer. The variable band-pass filter is tuned to a frequency of the specific channel and the tuning frequency of the variable band-pass filter can be shifted to a frequency out of a frequency band of the specific channel. Claim 2 recites that the variable band-pass filter

is tuned in a range from a first frequency to a second frequency and that the frequency out of the band is lower than the first frequency or higher than the second frequency.

On the other hand, the admitted prior art discloses a television signal transmitter having a mixer 52, a local oscillator 53, and a radio-frequency (RF) band-pass filter 54. The RF band-pass filter 54 is constructed by three band-pass filters 54a-54c. Hatano discloses an SIF (sound intermediate frequency) signal processing circuit that has the band-pass filter 70 and a mixer 80. See Figure 3. The band-pass filter 70 and the mixer 80 are used for all of the four types of broadcasting system, i.e., NTSC-M, PAL-B/G, PAL-D/K, PAL-I systems. The band-pass filter 70 is of a variable frequency type and its center frequency can be varied in accordance with a frequency control signal. The frequency control signal varies in accordance with the foregoing broadcasting system.

The Office Action concedes that the admitted prior art does not disclose the variable band-pass filter defined in claims 1-2. The Office Action asserts, however, that Hatano teaches or suggests the variable band-pass filter of claims 1-2. Applicant respectfully submits that neither the admitted prior art nor Hatano discloses that a variable band-pass filter can be shifted its frequency out of a frequency band of the specific channel, as defined in claim 1. Nor do the admitted prior art and Hatano disclose that the variable band-pass filter is tuned in a range between the first frequency and the second frequency, that the specific channel is set between the first frequency and the second frequency, and that the frequency out of the band is lower than the first frequency or higher than the second frequency, as defined in claim 2. In Hatano, the variable band-pass filter 70 changes its center frequency in accordance with the type of the broadcasting system. The variable band-pass filter 70 changes its center frequency to pass signal having a different frequency corresponding to a different type of the broadcasting system (i.e.,

NTSC-M: 4.5 MHz, PAL-B/G: 5.5 MHz, PAL-D/K: 6.5MHz, PAL-I systems: 6.0MHz). See column 2, lines 58-67. In addition, Hatano does not disclose that the band-pass filter is connected at the post-stage of the mixer as defined in claims 1-2. Hatano's variable band-pass filter 70 is located at the pre-stage of the mixer. Therefore, Hatano does not disclose the variable band-pass filter defined in claims 1-2.

Nevertheless, the Office Action further asserts that incorporating the band-pass filter of Hatano into the admitted prior art's system would have been obvious to produce an SIF signal processing circuit that can be operated either with only one resonator incorporated in it or with a reference signal supplied from the outside. Applicant respectfully submits that such SIF signal processing circuit is disclosed in Hatano and not the subject matter claimed in claims 1-2. If the Office Action is asserting that the admitted prior art and Hatano may be combined to produce the subject matter not claimed in claims 1-2, the rejection of claims 1-2 is improper and should be withdrawn.

If the Office Action has intended to assert that the admitted prior art and Hatano may be combined to teach or suggest the subject matter of claims 1-2, Applicant respectfully submits that there is no motivation to combine the admitted prior art with the variable band-pass filter disclosed in Hatano. No suggestion or motivation exists in the admitted prior art or in Hatano to replace the band-pass filter 54 of the admitted prior art with the band-pass filter 70 of Hatano. If the replacement is made to provide the admitted prior art with the variable band-pass filter, such suggestion or motivation for the variable band-pass filter is found only in Applicant's disclosure and not in the prior references.

Furthermore, the admitted prior art teaches away from such replacement. The RF band-pass filter of the admitted prior art is constructed by three band-pass filters 54a-54c, whereas

Hatano discloses a single band-pass filter 70. The RF band-pass filter 54 is located at a post-stage of the mixer and the local oscillator, whereas the band-pass filter 70 of Hatano is located at a pre-stage of the mixer 80. To be replaced with the band-pass filter 70 of Hatano, the admitted prior art needs to change overall arrangement of the system. Simply removing the band-pass filter 54 and placing the Hatano's band-pass filter 70 instead, are not possible because different circuit elements receive different input signals and output different signals. For example, in the admitted prior art, the RF band-pass filter 54 receives the input signal from the mixer and outputs the signal to RF amplifier 55. On the other hand, the variable band-pass filter 70 in Hatano receives the signal from a sound detection circuit 11 and outputs the signal to the mixer 80. Thus, nothing teaches or suggests that the skilled person would replace the band-pass filter 54 of the admitted prior art with that of Hatano.

Even if the admitted prior art may be modified with the band-pass filter of Hatano, none of the prior references discloses or suggests the variable band-pass filter defined in claims 1-2. The Office Action concedes that the admitted prior art does not disclose the claimed variable band-pass filter. Hatano does not disclose such band-pass filter as discussed above. Therefore, even if the admitted prior art may be combined with Hatano, such combination neither teaches nor suggests the band-pass filter defined in claims 1-2. Based on the above, the rejection of claims 1-2 is improper and should be withdrawn.

## **2. Claim 3**

Claim 3 is patentable under 35 U.S.C. § 103(a) because the prior arts do not teach or describe that “the frequency of the specific channel is higher than a middle frequency between the first and second frequencies, the frequency out of the band is set to be equal to or lower than the first frequency, and when the frequency of the specific channel is lower than the middle

frequency, the frequency out of the band is set to be equal to or higher than the second frequency.”

The Office Action concedes that the combination of the admitted prior art and Hatano does not disclose the claimed feature of claim 3. However, the Office Action asserts that it would have been obvious for the ordinary person to incorporate such feature of claim 3 into the combination of the admitted prior art and Hatano to increase the flexibility of the system by allowing the user to change the bands of the variable band-pass filter.

Applicant respectfully submits that the Office Action does not provide a prima facie case of obviousness by failing to prove that the combination of the cited references teaches all limitations of claim 3. The Office Action cannot rely upon the level of ordinary skill to suggest that the combination of cited references can be modified to meet the claimed invention. Al-Site Corp. v. VSI Int'l Inc., 174 F.3d 1308 (Fed. Cir. 1999); MPEP § 2143.01 at 2100-126. The Office Action must show that the prior art references teach or suggest all the claim limitations.

In addition, Applicant respectfully submits that the Office Action fails to provide a basis explaining why incorporating the claimed feature of claim 3 into the combined system of the admitted prior art and Hatano can increase the flexibility of the system by allowing the user to change the bands of the variable band-pass filter. Neither the admitted prior art, Hatano nor claim 3 discloses such enhancement of flexibility of the system by the user. Therefore, the rejection of claim 3 is improper and should be withdrawn.

For the foregoing reasons, claims 1-3 are not obvious in view of the admitted prior art and Hatano, individually or in combination. Applicant respectfully requests the Examiner to withdraw the rejections to claims 1-3.

**B. Objected Claims – Claims 4-9**

Applicant gratefully acknowledges that the Examiner would allow claims 4-9, if rewritten to include all limitations of their base and intervening claims. Claims 4 and 7 have been amended to be independent claims. Claim 5 has been amended to depend on claim 4 and claim 6 has been amended to depend on claim 5. Claim 8 has been amended to depend on claim 7 and claim 9 has been amended to depend on claim 8. Applicant respectfully submits that claims 4-9 are allowable as they are rewritten to include all limitations of their base and intervening claims. Applicant respectfully requests the Examiner to withdraw the objections to claims 4-9.

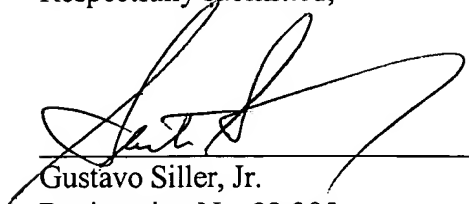
**C. The Prior Art Made of Record**

The five prior references have been made of record, although they have not been relied upon by the Examiner in issuing this Office Action. Applicant respectfully submits that Yamamoto (U.S. Patent No. 6,573,949) is not a proper reference as it has been filed on April 17, 2000, which is later than the priority date of this application, April 13, 2000. Applicant respectfully requests the Examiner to withdraw Yamamoto from the prior art made of record.

**CONCLUSION**

In view of the arguments above, pending claims 1-9 are patentable. Applicant respectfully requests the Examiner to grant early allowance of this application. If for any reason, the Examiner is unable to allow the application in the next Office Action and believes that an interview would be helpful to resolve any remaining issues, he is respectfully requested to contact the undersigned attorneys at (312) 321-4200.

Respectfully submitted,

A handwritten signature in black ink, appearing to read 'Gustavo Siller, Jr.', is written over a horizontal line.

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